with the OC12 interface, in fact, what appears to be the current standard deployment, 50 percent of the capacity of the OC12 is still available at this --

MR. RANSOM: Yes. Fifty percent of the traffic is not being used for either the RT's data or its voice, but for other services, for instance, business services, a DS-3 to a business, for example.

MR. STANSHINE: Okay. And, of course, the voice on the data are on the same glass with that particular product?

MR. RANSOM: That's correct.

MR. STANSHINE: But you have another product of the same capacity where the voice and data are always on separate glass or did I misunderstand that? Or maybe intermediate capacities?

MR. RANSOM: Well, in -- the best way to understand this is that in the light span 2000 product there is a separate piece of glass for the voice and a separate piece of glass for the data. Now --

MR. STANSHINE: Oh, didn't --

MR. RANSOM: -- some customers then build a -- would deploy a SONET terminal external to that to take those two pieces of glass plus whatever services they offer to business customers and so forth and put that onto a single piece of glass.

MR. STANSHINE: Okay.

MR. RANSOM: In the 2012 we've integrated that into --

MR. STANSHINE: Okay.

MR. RANSOM: -- the light span --

MR. STANSHINE: Okay. So the 2012 is -- okay. It's the 2012 versus the 2000 are slightly different models in effect here?

MR. RANSOM: That's correct.

MR. STANSHINE: Okay. Thank you.

MR. LUBE: This is John Lube with SBC. If I may give the buyer perspective of what Dr. Ransom is referring to, as well.

The 2012 uses an OC12 basically as just the fiber optic transport between the RT and the central office. As he explained, riding on that 2012 are still separate OC3s for voice and data. So it's not like the voice and data is all combined from the individual end-user up to one glob called an OC12. You go through the normal OC3C creation for the data channel bank that's part of the 2012.

Something else I'd like to mention about that, too, is that in case you were interested in that extra capacity that's available in the 2012 multiplexor, and how that might even be able to be used for other carriers, remotely located DSLAMs perhaps, just a comment about that.

The 2012 from Alcatel is a very good product but it is not always going to be the most economic solution on a case-by-case basis. Just to give you a for instance, our outside plant engineers --

MS. ROSENWORCEL: I think we want to just move away from this subject, if it's possible, You could finish up in about a second.

MR. LUBE: Excuse me. Finish this up --

MS. ROSENWORCEL: Could you finish this up in a few seconds?

MR. LUBE: I sure can.

MS. ROSENWORCEL: Okay.

MR. LUBE: Thank you.

There are some instances, speaking of the case-by-case type of situation that this is, there are some instances where an engineer, an outside plan engineer, might find it more economical to put in a stand-alone SONET multiplexor like an FLM-150 in the Rt in lieu of buying the more expensive 2012 chassis. I just wanted to clarify that.

MR. KIEDERER: I just wanted to say one thing about it. The 2012 is a wonderful product.

MR. McNAMARA: Well, thank you.

(Laughter.)

MR. KIEDERER: In Bell South's case we have approximately 40,000 RT sites and 39,990 of those are

something other than 2012s.

(Laughter.)

MS. ROSENWORCEL: Okay. I think we want to just move on to some other issues. Particularly, I'd like to move on to number six where we talk about the OCD.

We're interested in hearing what you believe the OCD's functionality is in the central office. If it's performing a multiplexing function, a cross-connecting function, routing or switching function or if you perceive it to be part of the transmission facility?

MR. LUBE: Since I believe we're the only ILEC that uses something that everyone calls an OCD, if you don't mind I'll take a stab at that --

MS. ROSENWORCEL: Fair point.

MR. LUBE: -- first. You go through a list of different things that you're asking about. First of all, as a preliminary matter, we regard the OCD as performing a routing and aggregation function. As you know, the OCD has fiber OC3Cs coming in from each individual RT. Different CLECs have different end-user -- their own individual end-users coming in from each of those different RTs.

Within the OCD a single CLEC's end-users are routed over to that CLEC's port on the OCD and they're all aggregated at that port for that CLEC. So that's why we call it a router and an aggregator.

To look at the things that you're asking, is it similar to this or similar to that? It would -- it's our position that the OCD is an ATM switch and not a multiplexor. A multiplexor in our thinking or meaning of multiplexor doesn't route. I don't know -- technology may change all of that in the years to come and terminology becomes very blurred when you start using labels like "switch" or "multiplexor" or whatever. So I just would say that at least in a TDM world, for instance, a multiplexor doesn't route. So we think of the ATM as more of a switch.

MS. ROSENWORCEL: Okay.

MR. LUBE: I'm sorry.

MS. ROSENWORCEL: Nortel?

MR. EDHOLM: Phil Edholm from Nortel. I think it's very important to understand that this is not a router. In this industry a router is an IP-level device that routes packets based on IP. That's a common term. Where routing -- it is an ATM switch. It switches based on ATM addresses and BVCs and does aggregation through that.

So I mean it's very specifically a device that manages the switching of BVCs from multiple locations and aggregates them together to whoever the end CLEC customer is. But it's not -- it does not do in what's becoming called in the data world "routing."

MS. ROSENWORCEL: Can I just ask a question

though? If you're saying that OCD is some kind of switch functionality then what's the COT? Is that some kind of circuit switch functionality?

MR. LUBE: If I can go ahead and address that for you. First of all, I would concede that the OCD is switching in lieu of routing. Terminology again gets very blurred, especially to old timers like myself. But it's -- yes, definitely it's performing a switching function.

The COT that you're asking about that's part of the overall NGDLC system, it's used for the voice traffic like POTS coming back in on -- coming back into the --

MS. ROSENWORCEL: So how would you describe its functionality because it's parallel in some senses to the OCD?

MR. LUBE: It's parallel in the sense that it is the central office termination or presence where the voice traffic comes into the central office. At that point the COT's function is to interface that high-speed multiplexed voice traffic coming into the local switch, the Class 5 switch.

It might do so on a DS-0 basis. It might do so on an integrated DS-1 basis, but that's the function of the COT. It's not used at all for the DSL traffic. I think you understand that part.

MS. FARROBA: So it's not performing a switching

function? The COT?

MR. LUBE: I don't believe so.

MS. MIKES: Perhaps a clarifying question. You use routing as a term of art. We have switching as a term of art. If -- you know, you are sending data from your house to your neighbor's house is it -- you know, is the OCD, in fact, recognizing that it's going to your neighbor and sending it back to your neighbor's house?

MR. LUBE: No. It's --

MR. EDHOLM: Phil Edholm from Nortel. Phil Edholm from Nortel.

Today absolutely not because, in fact, DSL does not provide for ATM connections between homes. You generally go back through the DSL network and emerge onto the IB network, are routed through the IP network back over to the other connection back through DSL where it's switched at a layer two service to your neighbor's house.

Assuming that your neighbor is 50 feet away, your packets may, in fact, go all the way across the country to get from one location to the other.

MR. LUBE: And this is John Lube again. Specifically what's going on inside the box that we call the OCD is that the end-user's packetized [sic] DSL signal is being switched from the port it comes in on from the RT over to the CLEC port for entry into the CLEC's own data network.

MS. FARROBA: Okay.

Also -- but I want to just clarify. Even though we're using the phrase "OCD" and the other phrase, "COT" I mean are there equivalent pieces of equipment and designs and some of the other networks? If so -- I mean I don't want this to just be limited to that one particular architecture.

Let me just start with you since you were just shaking your head yes.

MR. GERTZBERG: Irwin Gertzberg with AT&T. I think I've heard a lot of the discussion here. I think the way to characterize it, it's a DACS function. I think a lot of the things people talked about is exactly what we do today. It's connecting Point A to Point B, not on a per usage basis but on a per customer or a connection basis. It's a DACS function.

MR. STANSHINE: And for the record, could you spell out what DACS is?

MR. GERTZBERG: DACS

MR. STANSHINE: Digital access --

MR. GERTZBERG: Cross-Connect, yes.

MR. STANSHINE: Yes

MR. GUPTA: DACS is normally their transmission function, right?

MR. GERTZBERG: Yes. We consider it at AT&T a

transmission function.

MR. GUPTA: So this is a part of the transmission.

MR. REISTER: If I could react to some of the comments. I think the DACS analogy is meant as an analogy. It's doing this with virtual circuits but it's analogous to the DACS-type function.

I just wanted to react to a couple of comments. The first is, the OCD in the way that the architectures that have been laid out is -- is, as the gentleman from Nortel indicated, is doing essentially ATM switching and not doing anything IP-based.

It would certainly be a very interesting and great business opportunity if it was aware of IP and could do things like multi-cast video. The ILEC could then enable it as a platform for delivering enhanced services like video-type offerings and the CLEC could pay for that functionality which would be to take in a single stream of your concert video or whatever the video stream was, and fan it out to the subscribers. That could be something that carriers could pay for. So there are things that you could use that for, but as the architecture is defined in the documents that I've seen. It does not do that and it is just an ATM switch.

The other comment that I wanted to react to which is not really part of the question, which is the COT

comment, which is so -- that's my earlier point, which is so all the voice goes to that COT and goes to the Class 5 switch.

In next-generation architectures you wouldn't want to mandate -- you wouldn't want to have to have that happen, right. You would want to be able to take it out and then go over the data network and into a soft switch kind of architecture and you could deliver all of those innovative services on it.

MS. FARROBA: I guess the gentleman from Nortel.

MR. EDHOLM: Phil Edholm from Nortel. So if we want to kind of extend to the next generation for just a moment I'm going to throw a hand grenade out. The reality is virtually all of that data traffic starts and ends its life as ethernet. In the home what you connect to is ethernet.

Next-generation devices -- there was somebody that just announced, for example, a stereo device that does capture and it's ethernet connected. If you look at the other end of servers, it's ethernet.

So, logically, you want to look at next-generation networks having ATM as a transport facility with its complexity between the residents and that OCD unit. As it moves up to switching ethernet and doing routing at the IP level probably doesn't make sense. In fact, that's probably

a very interesting next-generation networks discussion.

MS. FARROBA: Rhythms, do you want to say something?

MR. REILLY: Yes. Just a comment on what the OCD is. I think it's a mistake calling it a DACS. It is an ATM switch. A DACS is commonly a voice circuit switching device that would switch DS-3s, DS-1s or 64 kilobit increments, which is a different function from what an ATM switch does. So if you're looking another name to call it that may appear in other networks, it is an ATM switch.

MR. KIEDERER: I just need to chime in. Charlie Kiederer from Verizon.

MS. FARROBA: Well, I mean I guess it's just, yeah -- just really quickly. Our question wasn't what to call it, but actually was is it performing? I mean even if it is a switch, is it performing that switching function in that network design --

MR. REILLY: Yes.

MS. FARROBA: -- or is it doing some other type of function. If so, what is that?

MR. REILLY: It is performing a switching function.

MR. KIEDERER: Charlie Kiederer from Verizon.

I want to agree with that exact issue and I'll tell you why. When we first heard of this term OCD we can

thank our SPC friends for coming up with that --

(Laughter.)

But when we first looked at that device, you know, in our opinion the most obvious thing that it was to us was an ATM edge device. It was an ATM switch.

The reason it's a switch is because it reads address information just like a central office switch reads dialed digits and routes it to a different outgoing port than the information came in on.

So that's why we consider that ATM device a switch, as opposed to say a central office terminal, which essentially is a multiplexor that's taking some OC3 or DC-3 in coming out at DS-1 or DS-0 that are mapped channels through the TSI.

The COT doesn't read anything about the information coming into it to determine what output it has to go to, whereas the OCD does have to read header information to determine which output, which ISP, which DLEC, it's going to.

MS. FARROBA: Good.

MR. SACKMAN: This is Jim Sackman from AFC. I hate to disagree with you on that but that's what light span does, not what all products do.

(Laughter.)

In fact, a COT can be other things if they're

architected that way and not all products do that. That's back to our friends from Bell South's point of view, is that we've got a huge problem here that we're talking around which is all of these -- there's a lot of products out there. I mean Nortel's got products out there, Lucent's got products out there. We've got products out there. Alcatel's got products out there and, you know, Marconi's got products out there, too. Sorry about that.

You know, there's a lot of this stuff out there and they do different things and we've competed on a regular basis over some standards, GR-303, TRA, TR-57, which were set by Telcordia, and some ATM forum stuff that we all agree to play nice with, right.

Beyond that, all of this other stuff that's going on isn't really standardized, right. So the way a light span works is different than the way UMC works, in the guts they're different. So if we want to talk about --

MR. STANSHINE: So you make -- for example, you'd make a digital cross-connect system not a DACS because that's a trademark I think or --

MR. SACKMAN: Yes, it's a trademark.

MR. STANSHINE: -- I don't know it it's registered or not but it's probably a trademark of Lucent.

But you could make a DCS system which inside its candy center, was looking at headers and trailers like an

ATM or other kind of --

MR. SACKMAN: It's in theory possible. Yes, absolutely.

MR. STANSHINE: Okay.

MR. SACKMAN: I mean if you look at --

MR. STANSHINE: So the function is different from the way the technology is put together or it's --

MR. SACKMAN: Oh, absolutely.

MR. STANSHINE: Right.

MR. SACKMAN: Because people also deploy things in standard ways, especially these guys, because they're doing it on a mass scale.

So if you look at the UMC, for example, we're building OCD capability into the product. Now it's not going to be on the scale of what they deployed SBC at their large COs because we're not that big of a product, but we'll be able to do it for the little guys and the small COs and that's what we're doing it for.

Now you've got to be -- so you've got to be a little bit careful about the blurring the lines of products and if we're going to talk about, you know, how to do this in a general way we also have to talk about standardization here, as well, so that these guys can buy from multiple vendors and we can be assured that they are going to be deployed ubiquitously because our friend over there from

Rhythms doesn't want to have different problems with SBC than he does with Bell South.

MR. STANSHINE: Could I -- I wanted to pursue a question. Sorry. But AT&T, you suggested that it's a cross-connect system function. Could I pry a little more from you? Why did you describe it that way?

MR. GERTZBERG: It depends -- there's a lot of vendors --

MR. STANSHINE: Don't read that as agreement or disagreement. It's just a question.

MR. GERTZBERG: No. From a high-level function, having that sort of capability to sort in our mind fits in as a cross-connect function. There's a lot of implementations and a lot of --

MR. STANSHINE: Can I --

MR. GERTZBERG: Basically, you're connecting facilities from outside plant to remote terminals to your -- facing your switch side, right. You want to get those connections set up. They don't necessarily have to be on a per millisecond --

MR. STANSHINE: Not meaning -- okay, not --

MR. GERTZBERG: Connected. Exactly and they're not broken every couple of milliseconds and can be reconnected again as you would in a normal switching environment.

MR. STANSHINE: Now the people who describe it as an ATM switch, do you disagree with his description?

MR. EDHOLM: Phil Edholm from Nortel again. So it is an ATM switch fabric. It is utilized as a cross-connect --

MR. GERTZBERG: Yes.

MR. EDHOLM: -- because of the longevity of the connection?

MR. GERTZBERG: Yes.

(Talking at once.)

MS. FARROBA: Okay, wait. Jerry, just hang on a second. I'm going to have to ask everyone -- one person at a time so that we can have a clear record.

I guess there's some disagreement among everybody about this issue or -- well, Nortel --

MR. EDHOLM: So I think everyone agrees that it's an ATM switching fabric which switches on cells, but in fact its deployment utilization is as a long-term cross-connect to cross-connect virtual circuits, virtual paths if you want to call it, between end-users and CLEC.

So the technology is a switching technology, but the utilization is a cross-connect. An ethernet switch, for example, switches every packet individually and there's total random as to where they may go. So there are no connections in that kind of environment, period.

So that's a switching fabric switching in a non-connectionless forum. This switching fabric is used in a long-term connection forum of PVCs which actually makes it look like a cross-connect the way it's utilized today. Now that doesn't say that it can't be used differently in the future. Fair?

MS. FARROBA: Does anyone disagree?

MR. KIEDERER: Well, just try to carry that analogy maybe a little bit further. What he's saying is that it's used to connect one input to an output. It's used as a cross-connection functionality. But I mean you could take that to the extreme, okay, and say that a digital switch is a digital cross-connect because it connects input to output.

The reality is, is that it's doing functionality internally that is reading addressing information which is what a digital switch would do and route it from one place to another place.

MR. GUPTA: The question that I am asking is what we're defining here is the functionality that we use now. What I understand is that the functionality is equal to the DACS, into the circuit network, and the only thing is, this has a little bit more intelligence rather than their dumb, you know, DACS. Is that -- so it is a transmission functionality. Is everybody in agreement?

MR. RANSOM: Yes.

MR. GUPTA: Does anybody have any objection?

MR. RANSOM: Well, let me just make one comment. Now certainly -- this is Neil Ransom from Alcatel. I certainly defer to Mr. Kiederer since this is an SBC terminology. But as I recall, the OCD came up in the context of wholesale resaling the DSL services that are at a remote terminal.

Right now the remote terminal is built by most all the manufacturers come out with one bit stream. So the question was, well, how would a CLEC then gain access to that bit stream in order to serve customers which are on this RT that happened to be that CLEC customer in the resale sense?

So SBC invented this concept of, well, we could have this little box that sits in the central office that takes this single stream of data, breaks it apart so it can serve -- send some of the data to a CLEC and some to the ILEC or whoever else is offering it. They suggested doing whatever the minimal functions necessary to allow that sharing.

Now whether -- I'm not even sure why we care if it's called a cross-connect or a transmission function or so forth. The context of it is it does a minimum function that allows a single stream of data to an RT to be shared over

multiple network operators. That's my understanding but I, of course, defer to SBC for that.

MS. FARROBA: And so that what you're saying is that's the point where everyone could peel I guess their bets out of the entire --

MR. RANSOM: That's my understanding. Again, I defer to Mr. Kiederer. I'm sorry.

MR. LUBE: That's okay. This is John Lube with SBC. I agree with Dr. Ransom's description of how this evolved and what it's really doing. I think the terminology again is going to be or appears to be a hangup or a problem.

I mean the fact is that it is an ATM switch fabric. I think most of us would agree with that. The fact is there is a connection made, whether it's dynamic coming -- you know, coming or being made and being broken apart and being made or whether it has great longevity. The fact is there's a connection being made through a switch fabric.

I don't think there's a benefit of trying to figure out, well, gee, in past decades of use of terminology is this a cross-connect? I mean there are analogies that people can say, "Well, it kind of looks like this or it kind of acts like that." But I think you've had some good, accurate descriptions of what's going on inside the box and why the box is there. If not, please ask us back to try again.

MS. FARROBA: Well, I mean maybe -- let's sort of go at this at a different way, which is what's the point in this network architecture in the central office where you would access your data or the -- coming back from the remote terminal?

In other words, I mean it used to be you go back to that main distribution frame and that was the point where -- well, actually the intermediate distribution frame where everybody could peel off their loops, etcetera. So with this architecture where is that point in the central office?

MR. LUBE: This is John Lube with SBC. The point of access for any data provider at the OCD is that data provider's port that's on that OCD.

For example, if Covad has a port on an OCD -- one of our OCDs, all of the DSL end-users that are served by Covad their packetized [sic] signals will be connected over, aggregated over through this ATM switch fabric to their port. That port would be their point of access.

In fact, with the wholesale broad band service that we offer, part of that service is the CLEC port that's on the OCD. That's their interface with us. It's actually delivered either at a fiber distribution frame if it's an OC3 port or a DSX-3 frame if it's a DS-3 speed port.

So if you're wondering what the physical interface is, like what frame it goes to, that's where it goes to.

MR. SACKMAN: And you can also correct me if I;m wrong, Mr. Lube. This is Jim Sackman from AFC. It's also one of the major costs of rolling DSL out to rural subscribers. If I look at the independent customer base that we serve they don't have to do this and it saves them a tremendous amount of money if you're looking at a relatively small classified central office.

You know, we've got customers out there with less than 2,000 subscribers. To put the kind of product that they're using as an OCD in there, to serve that kind of customer base there's so many dollars per subscriber, it makes it economically unviable.

MR. BOLTON: This is Gary Bolton from Catena Networks. So I think what Neil brought up -- really nailed it on the head, is that what -- rather than getting caught up in the complexities of trying to put this in physical terms is what you really have to have is a point of competitive access and you want to be able to establish a virtual circuit from the service provider to a subscriber.

The most efficient way to do this when we're looking at RTs it's -- this is all about being -- having network efficiency if you're going to be able to provide advanced services to everybody.

So it's very important that you're able to share common facilities to put all your data into a vehicle and I

think it's spelled out, the definitions spell it pretty well in the pronto order, and have that point of competitive access that you're able to drop those virtual circuits to whatever carrier is providing the service to those customers.

This is an incredibly efficient way to do it. There's -- as I think has been pointed out, there's a number of different products that can do this, but what you want to be able to do is to be able to unbundle at the virtual level.

MR. KIEDERER: Charlie Kiederer from Verizon. Just a couple of points.

A PARTICIPANT: I can't hear, please?

MR. KIEDERER: Excuse me?

A PARTICIPANT: Thank you.

MR. KIEDERER: Okay. I guess the mike wasn't on. Charlie Kiederer from Verizon. I just want to reiterate that I didn't disagree with the statement made by the gentleman to your left that he stated earlier, for the reasons that I said before. I think it is an ATM switch.

The other thing I wanted to say is that it fathoms me as to why we're in this discussion? I just -- I don't understand, what's happening here from a technical and an engineering view.

I mean if SBC, who is providing the service, has

this particular device in the office -- I mean they're using it from a technical perspective in order to gather ATM data cells and then distribute it to a multitude of providers.

What you call it I think, is irrelevant. It's the function that we're interested in. It does switch cells from one port to another port and it just boggles my mind as to why we're spending this amount of time and what's in the minds maybe of the folks that are asking the question on this particular item.

MS. FARROBA: Well, I mean I think I -- you basically said the same thing I said a while back, which is we're trying to find out what the functions are and not trying to give it -- give this particular piece of equipment a name, but just what is actually going on with the network architecture.

MS. DAVIS: I think it's important. The analogy was drawn earlier between the OCD and the MDF and I think that your assumption was correct and, as a matter of fact, Sprint has made those comments in state proceedings that in the data world the OCD would be the equivalent, in that, that is the accessible point in the network to which you could gain your traffic.

The other question that I would have is I've heard a lot of comments about the function of that OCD is strictly -- was strictly placed there to route CLEC traffic. Is it

true then that if there were no CLEC traffic that device would not be required? Okay.

MS. FARROBA: Well, does someone want to answer that for the record?

MR. LUBE: I would say that if there were no CLECs that where that traffic has to go is to the ISPs who are then forwarding that traffic to servers around the world I suppose. So, you know, would that box right there be needed to do this aggregation and switching that we're talking about here? Not per se, but if there were multiple ISPs to whom that traffic needed to be --

MS. DAVIS: Then you would still need that?

MR. LUBE: Well, yes.

MS. DAVIS: Right.

MR. LUBE: And I think someone made -- I'm sorry for talking over you. I apologize.

MS. DAVIS: That's okay.

MR. LUBE: I think -- I think somebody made the comment and I can't remember who it was, that the OCD looked kind of like an ATM edge switch.

My understanding of an ATM edge switch is the first point of entry and last point of exit for an end-user's signal. You know, that's what the OCD is. I mean, again if there were no CLECs that might still be an edge switch to reach other destinations or that traffic in its

totality might be delivered to a different part of a data network somewhere to have that switching take place.

MS. DAVIS: But just for the record, if you were going to multiple ISPs you would still require that kind of functionality?

MR. LUBE: Somewhere. It could happen elsewhere in the ATM cloud.

MS. DAVIS: Mm-hmm. So you would take multiple OC3Cs to some other location?

MR. LUBE: It would just depend on where you were going, how much you had to take there in terms of what physical architecture you would use. Again, it's a cost issue.

MS. DAVIS: Mm-hmm.

MS. ROSENWORCEL: Yes. You know, we'd like to also take this opportunity to take some questions from some people who are in the audience who might represent carriers who are not sitting at this table. So --

MR. REISTER: Could I just make one comment about the OCD?

MS. ROSENWORCEL: Sure.

MR. REISTER: It also -- I mean I think it's somewhat obvious to us on this side of the table, but the OCD is really going to be responsible for the quality of service down stream going out to that RT. So it's an ATM

switch, but that includes being able to do, you know, constant bit rate, virtual paths or RTVBR circuits down to subscribers and so on.

So you have to have that quality of service if you're going to enable, whether it's the ILEC or the CLEC, any carrier, to offer those value-added services.

MS. ROSENWORCEL: And to anyone who wants to ask a question -- we obviously have a microphone, but I also want to encourage you to recognize what Dorothy Atwood said earlier, that we are trying to leave a lot of policy questions for another day. So if you could concentrate on the technical.

MS. FARROBA: And just identify yourselves for the record.

MS. ROSENWORCEL: Thanks.

MS. SYED: My name is Naheed Syed and I'm with Broadslate networks, We are a CLEC and I would like to ask a question about we had touched from the technology perspective earlier about just the CVR and the UBR, but there's a lot of other technologies and there are upcoming technologies including the VBR like VBR real time, VBR non-real time.

Then where we made the analogy of PVCs, there are things like SVCs that a lot of the new type of equipment and vendors are doing and I'd like someone from either the

vendor panel here or from one of the ILECs to address how they plan on doing that.

Also, another question related to that, as we earlier addressed about the CLEC's ability to be able to buy either -- or being able to buy megabits versus right now you're in a situation where you have to buy DS3 or multiple DS3s or OC3s and because of the old infrastructure and because of the facilities not being available you're constantly having to wait to get these facilities from the ILEC. I'd like to see if some of that could be addressed here.

MS. FARROBA: Go ahead.

MR. BOLTON: Yes. This is Gary Bolton from Catena Networks. So just to address your question about the different KOS'. Like our company, for example, offers a full suite of quality service and I think that's pretty true with a number of vendors.

This debate earlier was not whether that CVR or UBR or VBR was available, it's more on being able to deploy a network that's efficient. So I think the concern was that if you were to guarantee CBR, that wasteful. And so it's -- in certain situations where you know you have subscribers and you can plan for that, but on a general basis I think that the concern was more on wasting band width.

MS. SYED: I understand that. But from a CLEC